

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Hiroshi SUZUKI et al.

S.N.: 09/331,829

Examiner: R. Sellers

Filed: June 23, 1999

Art Unit: 1712

For: CURATIVES FOR EPOXY RESIN, CURING)

ACCELERATOR, AND EPOXY RESIN

COMPOSITION

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RESPONSE AFTER FINAL OFFICE ACTION

Mail Stop Box AF Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450.

Dear Sir:

In response to the (FINAL) Examiner's Action mailed May 29, 2003 (Paper No. 34), having a shortened statutory period for response set to expire August 29, 2003, the aboveidentified patent application is amended as follows:

precipitate the crystals. After taking out the crystals by means of filtration, the crystals were dried under reduced pressure to obtain the clathrate according to the present invention. The results during the preparation of the clathrates were presented in Tables 1 and 2. All samples of the clathrates obtained according to the processes described in the examples were determined as the objective clathrates by means of measuring IR spectrums. NMR spectrums, and thermal analysis (TG·DTA and/or DSC) and powder X-ray diffraction pattern analysis. The abbreviations in Tables 1 and 2 represent respectively any of a curative, a curing accelerator or a host compound as described in the following.

Curatives and Curing accelerators:

DEA: Diethylamine

TBA: Triethylamine

PRI: Piperidine

PRA: Piperazine

PY: Pyridine

EDA: Ethylenediamine

TMDA: Trimethylenediamine

TEMDA: Tetramethylenediamine

HMDA: Hexamethylenediamine

DETA: Diethylenetriamine

TEDA: Triethylenediamine

o-PDA: Ortho-phenylenediamine

m-PDA: Meta-phenylenediamine

p-PDA: Para-phenylenediamine

BMAEE: Bis(2-dimethylaminoethyl)ether

DMAH: N. N-dimethylaminohexanol

TMHM: N, N, N', N'-tetramethylhexamethylenediamine

2E4MZ: 2-Ethyl-4-methylimidazole

1B2MZ: 1-Benzyl-2-methylimidazole

112MZ: 1-1sopropy1-2-methylimidazole

2MZ: 2-Methylimidazole

2P2: 2-Phenylimidazole

2PZL: 2-Phenylimidazoline

DBU: 1,8-Diazabicyclo(5,4,0)undecene

wherein X represents $(CH_2)n$, wherein n is 0, 1, 2 or 3, and R^1 to R^8 each represents hydrogen, a lower alkyl, a phenyl optionally substituted with halogen or C_1 - C_6 alkyl, a halogen or a C_1 - C_6 alkoxy.

29. (Currently Amended) An epoxy resin composition, comprising a noneuring an epoxy resin prior to curing, and a clathrate comprising a tetrakisphenol compound represented by a general formula (I) and a compound reacting with an epoxy group of the epoxy resin to cure the resin,

$$R1$$
 $R3$
 $R4$
 $R4$
 $R5$
 $R6$
 $R8$
 $R7$
 $R6$
 $R8$

wherein X represents $(CH_2)n$, wherein n is 0, 1, 2 or 3, and R^1 to R^8 each represents hydrogen, a lower alkyl, a phenyl optionally substituted with halogen or C_1 - C_6 alkyl, a halogen or a C_1 - C_6 alkoxy.

30. (Previously added and withdrawn due to restriction requirement) An epoxy resin composition comprising a non-curing epoxy resin, and